

REMARKS

Applicant hereby requests further consideration of the application in view of the amendments above and the comments that follow. Claims 1-20 are pending in the application but stand rejected. New Claims 21-24 have been added to form a more complete claim set for the application. Applicant respectfully submits that the new claims are supported by the application.

I. Objection to the Drawings

The Action objects to the drawings for certain non-substantive informalities. Although Applicant believes that the figures comply with current standards, Applicant is submitting replacement sheets as suggested by the Examiner, *e.g.*, to label "FIGURE 7" as "Figure 7" and to replace the handwritten element labels in Figures 1 and 2 with machine-applied element labels.

II. Obviousness-Type Double Patenting Rejections

The Action rejects Claims 1-20 on the non-statutory obviousness-type double patenting over claims in U.S. Patent No. 6,701,176 (the parent of the pending application). While Applicant does not necessarily agree with these rejections, Applicant is submitting a Terminal Disclaimer to overcome these rejections.

III. The 102 Rejections

The Action rejects Claims 1-6, 12, 14, 15 and 20 as being anticipated by U.S. Patent No. 5,833,608 to Acker ("Acker"). The Action asserts that Acker teaches the use of a probe with a MR imaging antenna and an electrical energy application element (citing col. 9, lines 44-67) and generating a composite image using images from the surface coil and the antenna (citing col. 14, lines 6-53). Applicant respectfully disagrees.

Acker describes a probe 50 as an elongated flexible shaft and states that the probe may include "known electrical, optical or electro-optical devices for providing a local image

of the tissues surrounding the distal end 56 such as video cameras and fiber-optic bundles" (col. 9, lines 58-61)(emphasis added). The Acker system does not have an RF pick-up coil. Indeed, they use a gradient signal to navigate and just acquire position information. There is no MRI image to overlay, rather only a video camera or fiber optic based local image.

Clearly, the cited passage of Acker fails to teach or suggest a probe with an MR antenna on a distal end thereof. Also, even if this broad general statement in Ackers could be interpreted to somehow include an MR antenna, there is no enabling teaching as how to configure the probe to achieve this, *e.g.*, no circuitry to operate the electrodes or the antenna to receive the local magnetic resonance signals (after transmit), or how to inhibit overheating of the lead at the electrodes and the like.

In view of the foregoing, Applicant respectfully submits that Acker fails to anticipate the claims and request that these rejections be withdrawn.

IV. The 103 Rejections

The Examiner also rejects Claims 7-11 and 16-19 as being obvious over Acker in view of U.S. Patent No. 5,928,159 to Eggers et al. ("Eggers") and Claim 13 as being obvious over Acker in view of U.S. Patent No. 5,706,810 to Rubinsky et al. ("Rubinsky").

The Action concedes that Acker does not disclose a diagnostic electrode or application of RF current, but alleges that Eggers, allegedly in the "same field of endeavor", teaches a probe 20 with electrodes and concludes it would have been obvious to incorporate the teachings of Eggers with that of Acker "to improve the efficacy of the medical procedure involving the characterization and treatment of tumors." Action, p. 6, (citing col. 2, lines 1-17). Applicant respectfully disagrees.

Eggers is not in the same field of endeavor. Indeed, Eggers does not mention MRI. Further, Eggers does not appear to describe an MR-compatible device. For example, the proposed stainless steel material of the electrodes or metallic tube would appear to cause image distortion (col. 4, lines 60-62, col. 5, lines 1-2). Eggers states that the distal portion can be guided to the location of a tissue mass using the coordinates in previous X-radiographic, sonographic or other diagnostic procedures (col. 5, lines 53-56).

Applicant was unable to find any mention of MRI, much less MR-guided

interventional procedures in Eggers. In addition, even if combinable as asserted by the Action, there is no teaching or suggestion of how to combine the operations and electronics to allow the combination, *e.g.* receive MR signals and deliver and/or sense electrical signals, much less for an MR-guided combination MRI antenna and interventional probe.

Also, with respect to Claim 13, Rubinsky fails to obviate the deficiencies of Acker. Further, Rubinsky proposes a cryosurgical probe, not an energy application element (*e.g.*, electrode) and, as such, operates in a different manner.

Thus, Applicant submits that one of skill in the art would not have combined the references in the manner indicated absent the teachings of the present invention.

In further support of the non-obviousness of embodiments of the claimed invention, Applicant is attaching a copy of an Abstract published with respect to the 19th Annual Scientific Meeting of North America Society of Pacing and Electrophysiology (May 1998) relating to the invention. *See*, Halperin et al., *Magnetic resonance guided catheter ablation* (Abst), PACE 1998; 21; 945.

V. Information Disclosure Statement

Applicant notes that examiner-initialed copies of the forms PTO-1449 filed with applicant's Information Disclosure Statement dated March 2, 2004 did not accompany the Office Action dated March 8, 2007. Copies of substitute Forms PTO 1449 filed January 11, 2001, July 31, 2002, November 8, 2002, June 17, 2003 and October 3, 2003 in the parent application U.S. Serial Number 09/428,990 were submitted with the continuation application on March 2, 2004. Copies of these forms are attached for the Examiner's ease of reference. Applicant respectfully requests that the Examiner acknowledge consideration of the references cited therein.

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CONCLUSION

Accordingly, Applicant submits that the present application is in condition for allowance and the same is earnestly solicited. Should the Examiner have any matters outstanding of resolution, he is encouraged to telephone the undersigned at 919-854-1400 for expeditious handling.

Respectfully submitted,

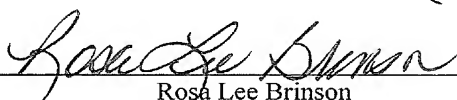


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